

**US Department of Transportation  
Pipeline and Hazardous Materials Safety Administration  
Office of Pipeline Safety**

**Gas IMP Field Verification Inspection  
49 CFR Subparts 192.911, 192.921, 192.933, & 192.935**

**General Notes:**

1. This Field Verification Inspection is performed on field activities being performed by an Operator in support of their Integrity Management Program (IMP).
2. This is a two part inspection form:
  - i. A review of applicable Operations and Maintenance (O&M) and IMP processes and procedures applicable to the field activity being inspected to ensure the operator is implementing their O&M and IMP Manuals in a consistent manner.
  - ii. A Field Verification Inspection to determine that activities on the pipeline and facilities are being performed in accordance with written procedures or guidance.
3. Not all parts of this form may be applicable to a specific Field Verification Inspection, and only those applicable portions of this form need to be completed. The applicable portions are identified in the Table below by a check mark. Only those sections of the form marked immediately below need to be documented as either “Satisfactory”; “Unsatisfactory”; or Not Checked (“N/C”). Those sections not marked below may be left blank.

**Operator Inspected:** Ameren Illinois \_\_\_\_\_

**Op ID:** 32513 \_\_\_\_\_

Perform Activity (denoted by mark)	Activity Number	Activity Description
X	1A	In-Line Inspection
	1B	Hydrostatic Pressure Testing
	1C	Direct Assessment Technologies
	1D	Other Assessment Technologies
	2A	Remedial Actions
	2B	Remediation – Implementation
	3A	Preventive & Mitigative – additional measures evaluated for HCAs
	3B	Preventive & Mitigative – automatic shut-off valves
	4A	Field Inspection for Verification of HCA Locations
	4B	Field Inspection for Verification of Anomaly Digs
	4C	Field Inspection to Verify adequacy of the Cathodic Protection System
	4D	Field inspection for general system characteristics
	attachment	Anomaly Evaluation Report
	attachment	Anomaly Repair Report

## Gas IMP Field Verification Inspection Form

Name of Operator: Ameren Illinois

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Headquarters Address: 300 Liberty Peoria, Illinois 61602

Company Official: Curt Fisher

Phone Number: Office – 217-424-6495 Cell – 217-246-1130

Fax Number:

Operator ID: 32513

Persons Interviewed	Title	Phone No.	E-Mail
Curt Fisher	<b>Primary Contact</b>	217-246-1130	cfisher@ameren.com
Mike Campbell	T.D. Williamson	918-630-1976	mike.campbell@tdwilliamson.com
James Lawson – Pressure / Measurement	Ameren Illinois - Hillsboro		
Ryan Curry – Pressure / Measurement	Ameren Illinois – Maryville		
Ron Hemken – Gas Journeyman	Ameren Illinois - Hillsboro		
Newton Tilson – Pressure / Measurement	Ameren Illinois - Maryville		

OPS/State Representative(s): James Watts \_\_\_\_\_ Date(s) of Inspection: April 29, 2015

Inspector Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Pipeline Segment Descriptions:** *[note: Description of the Pipeline Segment Inspected as part of this field verification. (If information is available, include the pipe size, wall thickness, grade, seam type, coating type, length, normal operating pressure, MAOP, %SMYS, HCA locations, class locations, and Pipeline Segment boundaries.)]*

The Greenville to Peters 2 lateral is constructed of 10 inch API L X42 piping and has a MAOP of 850 psig. Wall thickness ranges from .250 to .365 inches. The seam type is ERW with field applied coal tar wrap. The pig run was approximately 37.5 miles in length and was inspected with a pigging tool that included a MFL detection tool, a mapping tool and odometer. Above ground monitors were utilized to track the pig's progress and to determine the pig speed as well as staying informed by Gas Control on the flow of the gas into the pipeline that is used to push the pig along. The pig maintained a speed of approximately 5 miles per hour as defined in the pigging plan. Flows dropped off as the morning progressed so Gas Control began moving gas into storage to allow for the flow rate to be achieved. The pressure varied during the run but at the Pocahontas Town Border Station was recorded using a calibrated digital gauge indicated 771 psig when the pig reached the station. Pressures were monitored where possible and were also available through Gas Control. Upon receiving the data from TDW Ameren will review and take the necessary actions on any indications of immediates or other conditions.

**Site Location of field activities:** *[note: Describe the portion of the pipeline segment reviewed during the field verification, i.e. milepost/stations/valves/pipe-to-soil readings/river crossings/etc. In addition, a brief description and case number of the follow up items in any PHMSA compliance action or consent agreement that required field verification. Note: Complete pages 8 & 9 as appropriate.]*

The pig run began at the Greenville Pig Launch site located at 700N and 1175E in Bond County approximately 2.5 miles south of Greenville, Illinois. The end point for the pig run is the Peters 2 Station located 32 miles to the west of Greenville just east of the intersection of 162 and 157 in Glen Carbon, Illinois.

**Summary:** The pig run performed on April 29, 2015 was deemed successful after ensuring the pig was powered up when it reached the end point at Glen Carbon. The initial pig run on this segment performed in late 2014 was not successful due to the pig powering down approximately 3 miles prior to reaching the Peters 2 Station at Glen Carbon. During the Second run conducted on the 29<sup>th</sup> indicated speeds were maintained with the allowable 5 miles per hour rate identified in the pig run plan. Ameren had established launching and receiving procedures prior to performing the pig run and were followed as defined in the plan. Ameren had predesignated and marked the locations where the above ground monitors were to be placed and were recorded on a spreadsheet that was provided to the groups who were placing the monitors. This spreadsheet included the description of the location, mileage from the previous monitoring point, latitude and longitude of the monitoring points and elevations.

**Findings:** Ameren followed the established procedures which appeared to meet the intent of the applicable code sections. No issues, Notices of Amendment or Notices of Violations were issued during the audit.

**Key Documents Reviewed:**

Document Title	Document No.	Rev. No	Date
<b>Pigging Plan</b>			
<b>Above Ground Monitoring Locations Spreadsheet</b>			
<b>Qualifications of the Ameren and TDW Personnel</b>			

## Part 1 - Performance of Integrity Assessments

<b>1A. In-Line Inspection</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify that Operator's O&amp;M and IMP procedural requirements (e.g. launching/receiving tools) for performance of ILI were followed.</b>	X			
Verify Operator's ILI procedural requirements were followed (e.g. operation of trap for launching and receiving of pig, operational control of flow), as appropriate.				
Verify ILI tool systems and calibration checks before run were performed to ensure tool was operating correctly prior to assessment being performed, as appropriate.				
Verify ILI complied with Operator's procedural requirements for performance of a successful assessment (e.g. speed of travel within limits, adequate transducer coverage), as appropriate.				
Document ILI Tool Vendor and Tool type (e.g. MFL, Deformation). Document other pertinent information about Vendor and Tool, as appropriate				
Verify that Operator's personnel have access to applicable procedures for preparing, running and monitoring the pipeline for ILI tools include performance requirements (e.g.: tool speeds, pipe cleanliness, operation of tool sensors, and ILI field calibration requirements), as appropriate.				
Other:				[Note: Add location specific information, as appropriate.]
<b>1B. Hydrostatic Pressure Testing</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify that hydrostatic pressure tests complied with Part 192 Subpart J requirements.</b>			X	Hydrotesting was not conducted.
Review documentation of Hydrostatic Pressure Test parameters and results. Verify test was performed without leakage and in compliance with Part 192 Subpart J requirements.				
Review test procedures and records and verify test acceptability and validity.				
Review determination of the cause of hydrostatic test failures, as appropriate.				
Document Hydrostatic Pressure Test Vendor and equipment used, as appropriate.				
Verify that the baseline assessment is conducted in a manner that minimizes environmental and safety risks (reference §192.919(e) and ADB-04-01)				
Other:				
<b>1C. Direct Assessment Technologies</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify that application of "Direct Assessment Technology" complied with Part 192.923</b>			X	Direct Assessment Technologies were not utilized.
Review documentation of Operator's application of "Direct Assessment Technology", if available. Verify compliance with Part 192.923 and Operator's procedural requirements, as applicable.				
Verify that appropriate tests and/or inspections are being performed and appropriate data is being collected, as appropriate.				
Other:				
<b>1D. Other Assessment Technologies</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify that application of "Other Assessment Technology" complied with Operator's requirements, that appropriate notifications had been submitted to PHMSA, and that appropriate data was collected.</b>			X	Other Technologies were not utilized.
Review documentation of notification to PHMSA of Operator's application of "Other Assessment Technology", if available. Verify compliance with Operator's procedural requirements. If documentation of notification to PHMSA of Operator's application of "Other Assessment Technology" is available, verify performance of assessment within parameters originally submitted to PHMSA.				
Verify that appropriate tests are being performed and appropriate data is being collected, as appropriate.				
Other:				

## Part 2 - Remediation of Anomalies

<b>2A. Remedial Actions – Process</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify that remedial actions complied with the Operator's procedural requirements.</b>			X	<p>There were no remedial actions required other than rerunning the pig due to the initial power loss on the run conducted in late 2014.</p> <p>Cathodic Protection readings of pipe to soil at dig site (if available):  On Potential: _____mV  Off Potential: _____mV</p> <p><i>[Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</i></p>
Witness anomaly remediation and verify documentation of remediation (e.g. Exposed Pipe Reports, Maintenance Report, any Data Acquisition Forms). Verify compliance with Operator's O&M Manual and Part 192 requirements.				
Verify that Operator's procedures were followed in locating and exposing the anomaly (e.g. any required pressure reductions, line location, identifying approximate location of anomaly for excavation, excavation, coating removal).				
Verify that procedures were followed in measuring the anomaly, determining the severity of the anomaly, and determining remaining strength of the pipe. Review the class location factor and failure pressure ratio used by Operator in determining repair of anomaly.				
Verify that Operator's personnel have access to and knowledge of applicable procedures.				
Other:				
<b>2B. Remediation - Implementation</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify that the operator has adequately implemented its remediation process and procedures to effectively remediate conditions identified through integrity assessments or information analysis.</b>			X	<p>This will not be known until receiving the pigging report form TDW.</p> <p>Cathodic Protection readings of pipe to soil at dig site (if available):  On Potential: _____mV  Off Potential: _____mV</p> <p><i>[Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</i></p>
If documentation is available, verify that repairs were completed in accordance with the operator's prioritized schedule and within the time frames allowed in §192.933(d).				
Review any documentation for this inspection site for an immediate repair condition (§192.933(d)(1)) where operating pressure was reduced or the pipeline was shutdown. Verify for an immediate repair condition that temporary operating pressure was determined in accordance with the requirements in §192.933(a) or, if not applicable, the operator should provide an engineering basis justifying the amount of pressure reduction.				
Verify that repairs were performed in accordance with §192.103, §192.111, §192.713, §192.717, §192.719, §192.933 and the Operator's O&M Manual, as appropriate. If welding is performed, verify a qualified welding procedure and qualified welders are used to perform repairs. If composite repair methods are used, verify that a method approved by the Operator is used, procedures are followed, and qualified personnel perform the repair.				
Review CP readings at anomaly dig site, if possible. (See Part 4 of this form – "Field Inspection to Verify adequacy of the Cathodic Protection System", as appropriate.				
Other:				

### *Part 3 - Preventive and Mitigative Actions*

[illegible]

**Part 4 - Field Investigations (Additional Activities as appropriate)**

<b>4A. Field Inspection for Verification of HCA Locations</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Review HCAs locations as identified by the Operator. Utilize NPMS and Operator maps, as appropriate.</b>			X	<p>[Note: Add location specific information, as appropriate.]</p>
Verify that the operator's integrity management program includes accurate and updated system maps or other suitably detailed means documenting the pipeline segment locations that are located in high consequence areas, as appropriate. [§192.905(a)]				
Review the operator's applicable procedures and forms used to document new information from one-calls, surveys, aerial & ground patrols are being completed by field personnel to communicate new developments that may impact high consequence areas or that may create new high consequence areas to IM personnel, as appropriate. [§192.905(c)]				
Review the operator's applicable procedures and forms to confirm that new HCAs and class location changes are being identified through it's continuing surveillance program as required by §192.613 and §192.905.				
<b>4B. Field Inspection for Verification of Anomaly Digs</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Verify repair areas, ILI verification sites, etc.</b>			X	<p>[Note: Add location specific information, as appropriate.]</p>
Document the anomaly dig sites observed and reviewed as part of this field activity and the actions taken by the operator.				
<b>4C. Field Inspection to Verify adequacy of the Cathodic Protection System</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>In case of hydrostatic pressure testing, Cathodic Protection (CP) systems must be evaluated for general adequacy.</b>			X	<p>Cathodic Protection readings of pipe to soil at dig site (if available):  On Potential: _____ mV  Off Potential: _____ mV</p> <p>[Note: Add location specific information and note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</p>
The operator should review the CP system performance in conjunction with a hydrostatic pressure test to ensure the integrity assessment addressed applicable threats to the integrity of the pipeline. Has the operator reviewed the CP system performance in conjunction with the hydrostatic pressure test?				
Review records of CP readings from CIS and/or annual survey to ensure minimum code requirements are being met, if available.				
Review results of random field CP readings performed during this activity to ensure minimum code requirements are being met, if possible. Perform random rectifier checks during this activity and ensure rectifiers are operating correctly, if possible.				
<b>4D. Field inspection for general system characteristics</b>	Satisfactory	Unsatisfactory	N/C	Notes:
<b>Through field inspection determine overall condition of pipeline and associated facilities for a general estimation of the effectiveness of the operator's IMP implementation.</b>	X			<p>The pipeline right of way was in good condition and was posted with line markers attempting to maintain line of sight placement.</p>
Evaluate condition of the ROW of inspection site to ensure minimum code requirements are being met, as appropriate.				
Comment on Operator's apparent commitment to the integrity and safe operation of their system, as appropriate.				
Check ROW for pipeline markers in line-of-sight and Emergency call-in number on marker posts.				
Other:				

## Anomaly Evaluation Report *(to be completed as appropriate)*

<b>Pipeline System and Line Pipe Information</b>		
Operator (OpID and System Name):		
Unit ID (Pipeline Name)		
Pipe Manufacturer and Year:	Seam Type and Orientation:	
Pipe Nominal OD (inch):	Depth of Cover:	
Pipe Nominal Wall thickness (inch):	Coating Type and Condition:	
Grade of Pipe:	MAOP:	
<b>ILI Reported Information</b>		
ILI Technology (e.g., Vendor, Tools):		
Anomaly Type (e.g., Mechanical, Metal Loss):		
Is anomaly in a segment that can affect an HCA? (Yes / No)		
Date of Tool Run (MM/DD/YY):	Date of Inspection Report (MM/DD/YY):	
Date of "Discovery of Anomaly" (MM/DD/YY):		
Type of "Condition" (e.g.; Immediate; 60-day; 180-day):		
Anomaly Feature (Int/Ext):	Orientation (O'clock position):	
Anomaly Details: Length (in):	Width (in):	Depth (in):
Anomaly Log Distance (ft):	Distance from Upstream weld (ft):	
Length of joint(s) of pipe in which anomaly is identified (ft):		
<b>Anomaly Dig Site Information Summary</b>		
Date of Anomaly Dig (MM/DD/YY):		
Location Information (describe or attach map):		
Mile Post Number:	Distance from A/G Reference (ft):	
Distance from Upstream weld (ft):		
GPS Readings (if available) Longitude:	Latitude:	
Anomaly Feature (Int/Ext):	Orientation:	
Length of joint of pipe in which anomaly is found (ft):		
<b>For Mechanical Damage Anomaly</b>		
Damage Type (e.g., original construction, plain dent, gouge):		
Length (in):	Width (in):	Depth (in):
Near a weld? (Yes / No):		
Gouge or metal loss associated with dent? (Yes / No):		Are multiple dents present? (Yes / No):
Did operator perform additional NDE to evaluate presence of cracks in dent? (Yes / No):		
Cracks associated with dent? (Yes / No):		
<b>For Corrosion Metal Loss Anomaly</b>		
Anomaly Type (e.g., pitting, general):		
Length (in):	Width (in):	Max. Depth (in):
Remaining minimum wall thickness (in):	Maximum % Wall Loss measurement(%):	
Safe pressure calculation (psi), as appropriate:		
<b>For "Other Types" of Anomalies</b>		
Describe anomaly (e.g., dent with metal loss, crack, seam defect, SCC):		
Length (in):	Width (in):	Max. Depth (in):
Other Information, as appropriate:		
Did operator perform additional NDE to evaluate presence of cracks? (Yes / No):		
Cracks present? (Yes / No):		

### Anomaly Repair Report *(to be completed as appropriate)*

Repair Information		
Was a repair of the anomaly made? (Yes / No):		
Was Operating Pressure Reduced per 192.933(a) requirements?		
Was defect ground out to eliminate need for repair? (Yes / No):		
If grinding used, complete the following for affected area:		
Length (in):	Width (in):	Depth (in):
If NO repair of an anomaly for which RSTRENG/B31.G is applicable, were the Operator's RSTRENG/B31.G calculations reviewed? (Yes / No):		
<b>If Repair made, complete the following:</b>		
Repair Type (e.g., Type B-sleeve, composite wrap)		
Was defect ground out prior to making repair? (Yes / No):		
Operating Pressure at the time of repair:		
Length of Repair:	Pipe re-coating material used:	
Comments on Repair material, as appropriate (e.g., grade of steel, wall thickness):		
Comments on Repair procedure, as appropriate (e.g., welded sleeve, composite wrap):		
General Observations and Comments		
Was a diagram (e.g., corrosion map) of the anomaly made? (Yes / No):		(Include in report if available)
Were pipe-to-soil cathodic protection readings taken? (Yes / No):		
If CP readings taken, Record: On Potential: _____ mV; Off Potential: _____ mV		
<i>[Note: Note whether CP readings were from the surface or from the pipe following exposure, as appropriate.]</i>		
Describe method used by Operator to locate anomaly (as appropriate):		
Comments regarding procedures followed during excavation, repair of anomaly, and backfill (as appropriate):		
General Observations and Comments <i>(Note: attach photographs, sketches, etc., as appropriate):</i>		